

What is claimed is:

1. A purification apparatus comprising:

a mobile phase distillation part for distilling a mobile phase;

5 a mobile phase liquefaction part for liquefying the distilled mobile phase; and

a purification part disposed between the mobile phase distillation part and the mobile phase liquefaction part, for mixing the mobile phase liquefied at the mobile liquefaction part  
10 with to-be-purified material, removing impurities from the mixture through a bonded phase, and sending the impurity-removed purified material to the mobile phase distillation part.

2. The purification apparatus of claim 1, wherein the  
15 mobile phase distillation part comprises:

a flask containing the mobile phase therein; and

a heater for generating heat so as to distill the mobile phase.

20 3. The purification apparatus of claim 2, wherein the mobile phase is an organic solvent.

4. The purification apparatus of claim 1, wherein the mobile phase liquefaction part is a reflux condenser.

5. The purification apparatus of claim 1, wherein the purification part comprises:

a cellulose or silica thimble for mixing the mobile phase  
5 liquefied at the mobile phase liquefaction part with the to-be-purified material;

a bonded phase for removing impurities from the mixture of the cellulose or silica thimble; and

a soxhlet for sending the purified material, in which the  
10 impurities are removed by the bonded phase, to the mobile phase distillation part.

6. The purification apparatus of claim 5, wherein the bonded phase is at least one or two or more selected from the  
15 group consisting of silica gel, alumina, celite and activated carbon.

7. The purification apparatus of claim 5, wherein the bonded phase further comprises a predetermined thickness of a  
20 sand layer formed on upper and lower surfaces thereof.

8. The purification apparatus of claim 5, wherein the soxhlet sends the impurity-removed purified material to the mobile phase distillation part through a capillary tube.

9. The purification apparatus of claim 8, wherein an inlet of the capillary tube is filled with cotton such that only the purified material passes.

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10. A purification apparatus comprising:

a flask for containing an organic solvent therein;

a heater for distilling the organic solvent;

a condenser for liquefying the distilled organic solvent;

10 a cellulose or silica thimble disposed at a lower portion of the condenser, for mixing the organic solvent liquefied at the mobile phase liquefaction part with to-be-purified organic material;

a bonded phase disposed at a lower portion of the cellulose  
15 or silica thimble, for removing impurities from the mixture of the cellulose or silica thimble; and

a soxhlet for sending the purified material, in which the impurities are removed by the bonded phase, to the flask.

20 11. The purification apparatus of claim 10, wherein the condenser is a reflux condenser.

12. The purification apparatus of claim 10, wherein the bonded phase is at least one or two or more selected from the

group consisting of silica gel, alumina, celite and activated carbon.

13. The purification apparatus of claim 10, wherein the  
5 bonded phase further comprises a predetermined thickness of a sand layer formed on upper and lower surfaces thereof.

14. The purification apparatus of claim 10, wherein the  
soxhlet sends the impurity-removed purified material to the flask  
10 through a capillary tube.

15. The purification apparatus of claim 14, wherein an inlet of the capillary tube is filled with cotton such that only the purified material passes.

16. A purification method using a purification apparatus  
having a mobile phase distillation part; a mobile phase  
liquefaction part; and a purification part disposed between the  
mobile phase distillation part and the mobile phase liquefaction  
20 part, for removing impurities of to-be-purified material, the method comprising the steps of:

distilling a mobile-phase solvent;

liquefying the distilled solvent;

mixing the liquefied solvent with the to-be-purified material;

removing impurities from the mixture using the bonded phase;

5 sending the purified material, in which the impurities are removed by the bonded phase, to the mobile phase distillation part; and

extracting the purified material from the mobile phase distillation part.

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17. The purification method of claim 16, wherein the bonded phase is at least one or two or more selected from the group consisting of silica gel, alumina, celite and activated carbon.

15 18. The purification method of claim 16, wherein the purified material is moved to the mobile phase distillation part by a capillary phenomenon having a difference of a surface tension.

20 19. The purification method of claim 16, wherein the purified material is purified by a polarity difference of the mixture.